



Title: DSP-4 DUAL-SPECIFICITY PHOSPHATASE

Express Mail No. EV336597929US

Inventor(s): Ralf M. Luche and Bo Wei Serial No. 09/544,517 Docket No. 200125.410

### DSP4, ENCODED BY 651 BASE PAIRS

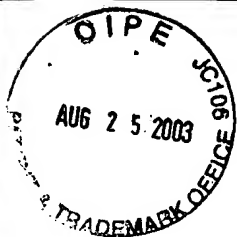
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GGACCTTAGC TCGGACCTGC AAGTTGGCGT TATTAAGCCA TGGTTGCTCC TAGGGTCACA AGATGCTGCT CATGATTTGG ATACACTGAA  
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GGATCTGCCT GAAACCAACA TCCTGTCTTA TTTCCAGAA TGTTTGAAT TTATTGAAGA AGCAAAAAGA AAAGATGGAG TGGTTCTTGT  
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TTTGGTGAAA AATGCAAGAC CTTCATATG TCCAAATTCT GGCTTCATGG AGCAGCTTCG TACATATCAA GAGGGCAAAG AAAGCAATAA  
GTGTGACAGA ATACAGGAGA ACAGTTCATG AGTTGCATTG TAGCAGACAA TGGACAACTG TAGTTTCTGA ATTGACTTCT ATAGCCATCT  
TTCCCTTTT TTGGAGAGTA GACTAGCAAA ACTCCCTTTT TTCTCTTGCC TTTTATATGC ATAAATGGAG GTCAATCTGA TTGTCCTGAC  
CTACTGTATA AGTAAATTC AAATGTCATT ACTTCTCTT TGTTATTATA ATGTGTGATT AAATGCTTTT TTAAATTGCT AAGGGAAAAT  
AAAAAA

*Fig. 1*

### TRANSLATED, 217 AMINO ACIDS

MYSLNQEIKAFSRNNLRKQCTRVTTLTGKKIIETWKDARIHVVEEVEPSSGGGCGYVQDLSSDLQVGVIKPWL  
LLGSQDAAHDLTLKKNKVTHILNVAYGVENAFSLDFTYKISILDLPETNILSYFPECFEFIEEAKRKDGVV  
LVHCNAGVSRAAAIVIGFLMNSEQTSFTSAFSLVKNARPSICPNSGFMEQLRITYQEGKESNKCRIQENSS

*Fig. 2*



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1 10 20 30 40 50 60 70 80 90 100  
PYST1, SOLDRD-PNSATSDGSPLSNSQSPFV-EILPFLYLGCADSTNLDVEEGIKYILNTPNLNLFENAGEFYKQIPISDMMSQNL SQFFPEALSFI  
MKP-7, DRELPSATESDGPVPSSQPAFV-QILPFLYLGCADSTNLDVLGKYGKYL NTPNL PNAFEGHGETFYKQIPISDHMSQNL SQFFPEALSFI  
hVH5 GLCEGPAALLPMSLSQPCLPVPSVGLTRILPHLYLGSQKOVNLKDLWTQNGISYVLNASHSCPKP-DFICESRFRMRVPINDNYCEKLLPMLDKSTIEFI  
PAC1 PAQALPPAGAENSNDPRVPIYDGGPVEILPFLYLGSCNHSSDLQGLQAGGITAVLNSASCPNHF--GLFHYKSTPVEDNHKADISSWFMFAIDFI  
MKP-1, PLSTSPDSESGCCSCTPL YDGGPVEILPFLYLGSAHARSKDMLDALGITALLNSANCPNHF--GHYQYKSTPVEDNHKADISSWFMFAIDFI  
MKP-4, PVPPSATEPLDLGCSCGTPLDHGGPVEILPFLYLGSAHARSDMLDALGITALLNSWSDCPNHF--GHYQYKCTPVEDNHKADISSWFMFAIEYI  
MKP-5, SERALISQCGKPVNVSYPAYDGGPVEILPFLYLGSAHASKCEFLANLHITALLNVSRTSEACH--THLHYKMTIVEDSHDTSIHFQEAIDFI  
DSP-4 HWEEVEPSSGGGGYVQDLSSDLQNGV--IKPMLLGSQDAADLDLTKNKVTHILNWAYGVENAF--SDFTYKSTISILDLPETNLSYFPECFEFI  
Consensus p s q g l l P LyLgS a l# \$ git LNs pn f f %k !p! D iss f eai FI

101 110 120 130 140 150 160 170 175  
PYST1, DEARKNGVLVHCLAGISRSVTTVAYLMOKLNL SMDAYDVKMKNSISPNFNFMGQLDFERTLGLSS  
MKP-7, DEARSKCGVLVHCLAGISRSVTTVAYLMOKMMLSLNDAYDFVKRKSNSISPNFNFMGQLDFERTLGLSS  
hVH5 DKAKLSSCOVIVHCLAGISRSATIATAYIMKTMGSSDDAYFVKDRRPSISPNFNLGQLLEYERTLKL A  
PAC1 DSVKNSSGRVLVHCQAGISRSATICLAYLIQSHRVLDEAFDFVKORRGVISPNSFNFMGQLLQLETQVLCH  
MKP-1, DSTKNAGRVFVHCQAGISRSATICLAYLMRTNRVKLDEAFEFVKORRSIISPNSFNFMGQLLOFESQVLAPH  
MKP-4, DAVKDCRGVLVHCQAGISRSATICLAYLMKKRVRL EEAFFVKORRSIISPNSFNFMGQLLOFESQVLATS  
MKP-5, DCVREKGGVLVHCEAGISRSPTICMAYLMKTKQFRLKEAFDYIKORRSWSPNFNFMGQLLOYESEILPSTPN  
DSP-4 EEARKKDGVLVHCNAGVSRAAIVIGLWSEQTSTFSAFLVKNARPSICPNSGFMEQLRTYQEGKESNKCDR  
Consensus # ak k g VIVHC AG!SRsat! a%In s A% f!K rr !sPNF F\$gql l y#

Fig. 3



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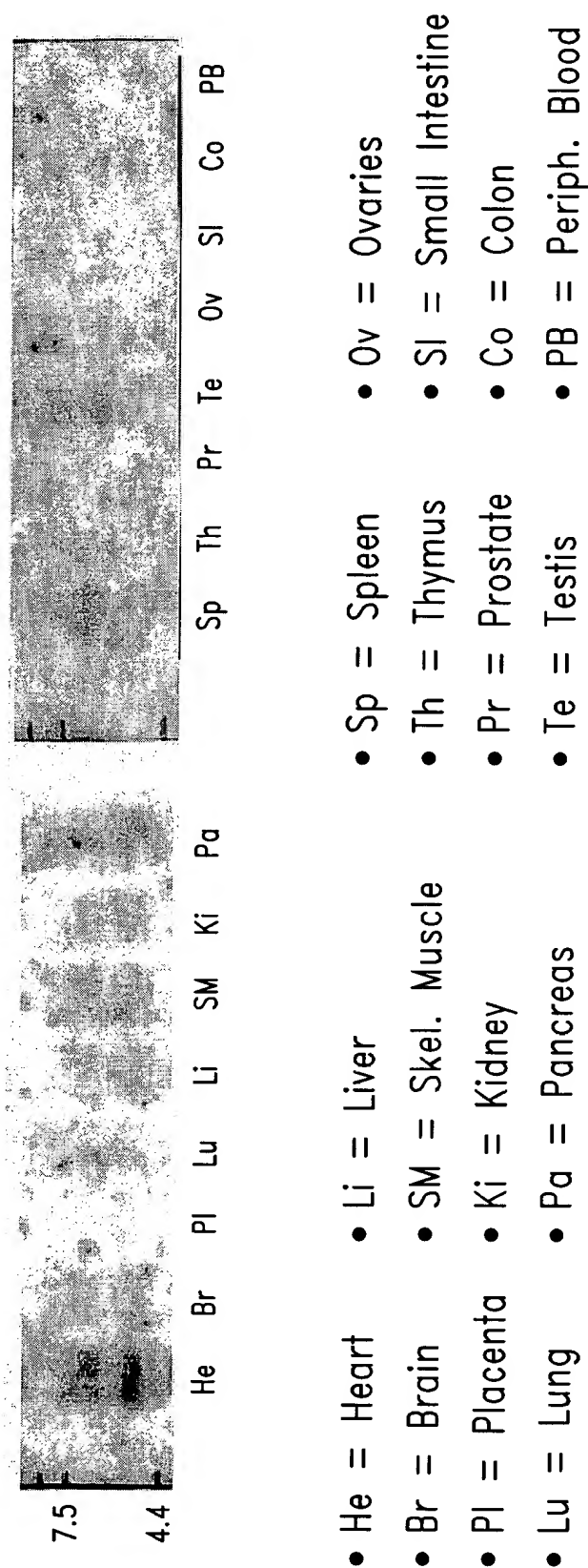
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## DSP-4

- Northern blot analysis



*Fig. 4A*

*Fig. 4B*